

FIG. 1

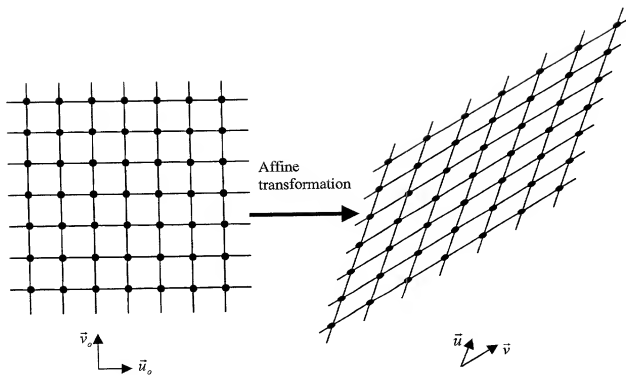


FIG. 2A. Reference grid structure.

FIG. 2B. Affine-transformed grid.

FIG. 2

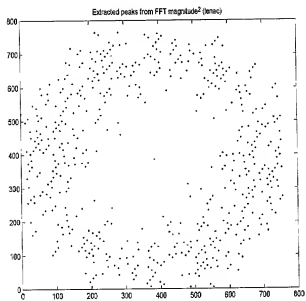


FIG. 3A. Noisy extracted points P after affine transform (e.g.: a rotation).

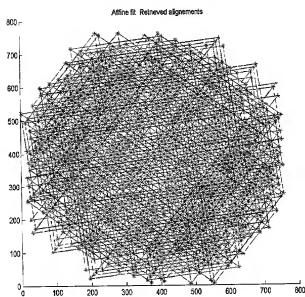


FIG. 3B. Fitted lines to the grid of points (here the 2 main directions, plus the 2 diagonals are represented).

FIG. 3

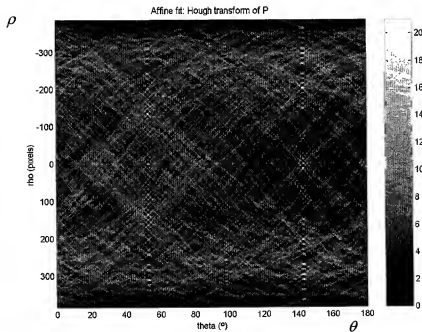


FIG. 4A. Hough transform H computed from P , resulting from the ACF or MS of the input data; the horizontal axis (θ) is the angle of projection, the vertical axis is the distance of projection (ρ), and the gray-level scale on the right stands for the number of projected points.

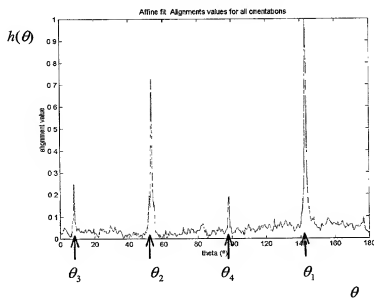


FIG. 4B. Estimation of the main angles of projection, the curve being any alignment contribution function $h(\theta)$ of the angle of projection; peaks correspond to alignments angles: θ_1 and θ_2 are the main axes angles, and θ_3 , θ_4 2 diagonals.

Points from P belonging to the same class (eg. one main axis candidate) —

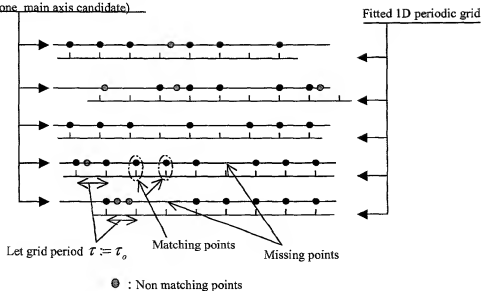


FIG. 5A. Idea of a matching function $M(\tau)$ of a period τ , given a noisy set of extracted points belonging to the same main axis (therefore on parallel alignments); the figure shows the case of $M(\tau_0)$, where τ_0 is the correct period: the idea is to count points which match with the fitted 1D grid.

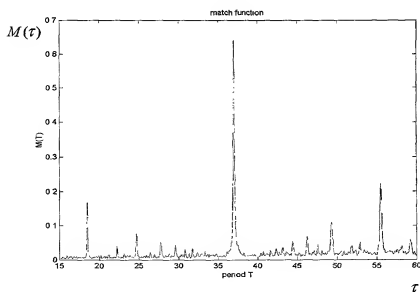


FIG. 5B. Plot sample of such a matching function, $M(\tau)$ showing the largest peak when $\tau = \tau_0$; here $\tau_0 = 36$.